

## **REMARKS**

### **Status of the Claims**

Claims 2 and 4-24 are pending in the present application. Claims 1 and 3 were previously canceled without prejudice or disclaimer. Claims 2 and 24 are independent. Independent claims 1 and 24 are amended to correct an obvious typographical error without introducing any new matter. Entry of the present amendment to correct the typographical errors in claims 1 and 24 and reconsideration of this application are respectfully requested.

### **Summary Of The Office Action**

The outstanding Action is a final Action that presents a rejection of claims 2, 4, 10-13, 17-20 and 24 under 35 U.S.C. § 103(a) as allegedly being unpatentable over JP 2001-276484 (hereinafter ‘484 to be consistent with the outstanding Action) in view of Walsh (Canadian Patent Application Publication No. 2,242,101, hereinafter “Walsh”) and a rejection of claims 5-9, 14-16, and 21-23 under 35 U.S.C. § 103(a) as being unpatentable over ‘484 in view of Walsh in further view of Robey (JP 2000-343081, hereinafter ‘081 to be consistent with the outstanding Action).

### **Rejection of Claims 2, 4, 10-13, 17-20, and 24 under 35 U.S.C. § 103**

Item 3 starting on the bottom of page 2 of the outstanding Action presents the above-noted rejection of claims 2, 4, 10-13, 17-20 and 24 under 35 U.S.C. § 103(a) as allegedly being unpatentable over ‘484 in view of Walsh. This rejection is respectfully traversed.

First, it is noted that ‘484 is concerned with a washing machine and that washing machines are not in operation for periods of time in the same range of as the periods of operation for the swimming pools and spas that are of concern to Walsh. Note the Walsh statement of the “Field of the Invention” at page 1 that indicates that treatment of water in “swimming pools, spas and the like” is the Walsh concern, not water in a washing machine as in ‘484. Also note that page 3 (at numbered lines 22-26 of Walsh) describes the swimming pool components of Fig. 1. It is with regard to such a swimming pool or spa that Walsh teaches that an electrode in a cell associated with other pool/spa components (like those noted in numbered lines 13-20 on page 2 and numbered lines 22-26 on page 3) can be periodically switched from being an anode to being

a cathode, with this switching occurring as noted in numbered lines 21-25 on page 2 (“typically, by a daily or weekly change-over of the polarity of the cell”) or as noted at numbered lines 8-10 on page 4 (“whereby the cell is activated for only part of the time, e.g. 3 hours on, followed by 3 hours off, with a further option of reversing the polarity of electrodes”).

Washing machines are not swimming pool or spa like in any reasonable respect apart from the fact that both can hold completely different amounts of water. For example, washing machines (like that of ‘484) do not have swimming pool components like those noted at numbered lines 13-20 on page 2 or lines 22-26 on page 3 and are not in operation “daily or weekly” like the pool or spa contemplated by Walsh. Moreover, to whatever extent that numbered lines 8-10 on page 4 of Walsh teach that the swimming pool cell could **optionally** “include a timing mechanism (not shown), whereby the cell is activated for only part of the time, e.g. 3 hours on, followed by 3 hours off, with a further option of reversing the polarity of electrodes,” such periods also have no applicability to the operation of a washing machine as in ‘484.

In addition, it is clear from a complete reading of Walsh<sup>1</sup> that the **optional** use of polarity reversal of the electrodes with halt periods of cell operation (with no purification possible) has nothing to do with purifying the water as the water is purified with or without such reversals of polarity, and most certainly in spite of any halt periods. Thus, the rationale presented at page 3 (in lines 10 and 11) of the outstanding Action that a reversal of polarities with a halt period would somehow be needed “to purify the water stream” makes no sense as water purification is not disclosed by Walsh to depend on or to be improved by the **optional** use of polarity reversal of the electrodes with halt periods as to cell operation.

Moreover, it is the addition of zinc to the electrode that is the improvement offered by Walsh to avoid discoloration problems, not the alternate operation of an electrode as an anode and then as a cathode, with or without halt periods. Note page 2, numbered lines 8-9 and 19-20 that identify this improvement. Further note page 1 (at numbered lines 17-26) that establishes that the known systems using copper/silver alloy electrodes (without zinc) and with these

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<sup>1</sup> “While the test for establishing an implicit teaching, motivation, or suggestion is what the combination of [reference statements] would have suggested to those of ordinary skill in the art, the [reference] statements cannot be viewed in the abstract. Rather, they must be considered in the context of the teaching of the entire reference. See *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000)

electrodes “operated, alternatively, as a cathode then anode over a set time interval, under control of a microprocessor,” still had the drawback of discoloration as noted in numbered lines 24-26 on page 1. Thus the apparent further rationale offered at page 3, lines 6-7, that addition of the **optional** use of polarity reversal of the electrodes with halt periods of cell operation would provide “effective biocidal concentrations of ions without discoloration or damage to the appliance” also makes no sense.

In actuality, Walsh offers no reason at all to **optionally** “include a timing mechanism (not shown), whereby the cell is activated for only part of the time, e.g. 3 hours on, followed by 3 hours off, with a further option of reversing the polarity of electrodes.” It seems that this option is only offered because of the previously noted similar optional operation noted as to the prior art copper/silver electrodes in an electrolytic flow cell at numbered lines 21-23 on page 1 of Walsh.

Thus, the outstanding Action fails to set forth the “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” as required by the Supreme Court. *See KSR Int’l v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385, 1396 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)).

Furthermore, independent claim 2 and independent claim 24 both require that the control unit must operate to “adjust at least one of the length of the first adjustable voltage application period, the length of the adjustable voltage application halt period, the length of the second adjustable voltage application period, and the length of an overall ion elution period that includes at least the first adjustable voltage application period, the adjustable voltage application halt period, and the second adjustable voltage application period to adjust the amount of eluted metal ions being produced to a desired level,” none of which is taught by either ‘484 or Walsh and these limitations are improperly ignored<sup>2</sup> in the outstanding Action. Ignoring positively recited claim limitations is not permitted. *See In re Wilder*, 429 F.2d 447, 450, 166 USPQ 545, 548, (CCPA 1970).

It appears that the “control unit” limitations of claims 11-13 that also relate to controlling these periods recited by the independent claims have also been effectively ignored based upon an

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<sup>2</sup> As noted by the Supreme Court in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), obviousness is a question of law based on underlying factual inquiries. The factual inquiries enunciated by the Court included a requirement to properly ascertain the differences between the claimed invention and the prior art.

allegation that the clearly recited functions can be dismissed as “intended use” or that some unidentified teaching in ‘484 (as to somehow “utilizing control to supply power based on measurements of the flow sensor 210” at lines 11 and 12 on page 3 of the outstanding Action) teaches the alleged “intended use” of claims 11-13.

Turning first to the “intended use” allegation, the last response noted that MPEP § 2173 establishes that functional limitations are not mere “intended use” statements and must be given weight as follows:

A functional limitation is an attempt to define something by what it does, rather than by what it is (e.g., as evidenced by its specific structure or specific ingredients). There is nothing inherently wrong with defining some part of an invention in functional terms. Functional language does not, in and of itself, render a claim improper. *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (CCPA 1971).

A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. A functional limitation is often used in association with an element, ingredient, or step of a process to define a particular capability or purpose that is served by the recited element, ingredient or step. In *Innova/Pure Water Inc. v. Safari Water Filtration Sys. Inc.*, 381 F.3d 1111, 1117-20, 72 USPQ2d 1001, 1006-08 (Fed. Cir. 2004), the court noted that the claim term “operatively connected” is “a general descriptive claim term frequently used in patent drafting to reflect a functional relationship between claimed components,” that is, the term “means the claimed components must be connected in a way to perform a designated function.” “In the absence of modifiers, general descriptive terms are typically construed as having their full meaning.” *Id.* at 1118, 72 USPQ2d at 1006. In the patent claim at issue, “subject to any clear and unmistakable disavowal of claim scope, the term ‘operatively connected’ takes the full breath of its ordinary meaning, i.e., ‘said tube [is] operatively connected to said cap’ when the tube and cap are arranged in a manner capable of performing the function of filtering.” *Id.* at 1120, 72 USPQ2d at 1008.

Further note *In re Venezia*, 530 F.2d 956, 189 USPQ 149 (CCPA 1976) in which limitations such as “members adapted to be positioned” and “portions . . . being resiliently dilatable whereby said housing may be slidably positioned” were held to serve to precisely define present structural attributes of interrelated component parts of the claimed assembly.

For at least the reasons stated above, independent claims 2 and 24 are clearly patentably distinct from ‘484 and Walsh and the withdrawal of the rejection of these independent claims as being unpatentable over ‘484 in view of Walsh is respectfully requested.

Furthermore, as claims 4, 10-13, and 17-20 depend directly or indirectly from independent claim 2, these dependent claims are respectfully submitted to be improperly rejected under 35 U.S.C. § 103(a) as unpatentable over ‘484 in view of Walsh for at least the same reason as noted above as to parent independent claim 2. Accordingly, the withdrawal of the improper rejection of dependent claims 4, 10-13, and 17-20 under 35 U.S.C. § 103(a) as unpatentable over ‘484 in view of Walsh is also respectfully requested.

In addition, it is noted that claims 4, 10-13, and 17-20 add further features to those of base independent claim 2, which further features are also not taught or suggested by the applied references considered alone or together in any proper combination.

For example, and as noted above, neither ‘484 nor Walsh teach or suggest the feature of the specifically recited control of periods set forth by claims 11-13. In addition, claim 4 requires the feature that “a constant current flow between the electrodes” is to be maintained while adjusting “the voltage applied to the electrodes during at least one of the first adjustable voltage application period and the second adjustable voltage application period.” This limitation requires far more than the adjustment of “current to an appropriate level” as alleged in item 4 on page 3 of the outstanding Action. Similarly, the specific limitation of claim 11 requires far more than that “the ion dissolution rate is related to current” as further noted in item 4.

Accordingly, the withdrawal of the improper rejection of dependent claims 4, 10-13, and 17-20 under 35 U.S.C. § 103(a) as unpatentable over ‘484 in view of Walsh is further respectfully requested because of these added features.

#### **Rejection Of Claims 5-9, 14-16, And 21-23 under 35 U.S.C. § 103**

Item 4 on page 3 of the outstanding Action presents the above-noted rejection of claims 5-9, 14-16, and 21-23 under 35 U.S.C. 103(a) as allegedly being unpatentable over ‘484 in view of Walsh in further view of ‘081. This rejection is traversed.

The reliance on ‘081 is relative to the subject matter added by dependent claims 5-9, 14-16, and 21-23 and does not cure the deficiencies noted above as to the reliance on ‘484 in view of Walsh. Accordingly, claims 5-9, 14-16, and 21-23 are respectfully submitted to patentably define over the applied references for at least the same reason that parent independent claim 2 does and withdrawal of this improper rejection of claims 5-9, 14-16, and 21-23 under 35 U.S.C.

§103(a) as being allegedly unpatentable over '484 in view of Walsh in further view of '081 is respectfully requested.

In addition, limitations in dependent claims 5-9 and 14-16 that are functional limitations have again been improperly ignored as “intended use.” Such limitations must be considered. See again the above-noted MPEP § 2173 excerpt and the controlling decisions cited therein of *In re Swinehart* and *Innova/Pure Water Inc.*, as well as the above noted decision of *In re Venezia*.

Page 4 of the outstanding Action argues that the there cited decisions of *Ex parte Wikdahl*, *Ex parte McClullogh*, *In re Finsterwalder*, and *In re Casey* all support the general proposition that the “manner in which an apparatus operates is not germane to the issue of patentability of apparatus itself.” This is not an entirely accurate assessment of the holdings in theses decisions.

The *McCullough* decision actually dealt with a claim for an “electrode body” that was recited as “for use” in an energy storage device in the claim preamble. Likewise, the preamble in *Wikdahl* recited a “cyclone separator” apparatus that was “for” a specific preamble recited use. Similarly, the *Casey* decision was concerned with a claimed machine that included an intended use of the machine as a taping machine. The issue in these decisions was simply if the stated intended use of the there claimed combination of elements was of patentable significance. The answer in these cited decisions was no, but that is not always the decision that is reached. See *In re Stencel*, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987) that reached the opposite conclusion (yes, it was of patentable significance) and noted the following:

There is an extensive body of precedent on the question of whether a statement in a claim of purpose or intended use constitutes a limitation for purposes of patentability. See generally *Kropa v. Robie*, 187 F.2d 150, 155-59, 88 USPQ 478, 483-87 (CCPA 1951) and the authority cited therein, and cases compiled in 2 Chisum, Patents §8.06[1][d] (1987).

In any event, the issue here is different from the issue in these cases because it involves the **definition of a claim element** making up **part of a claimed combination** (not the whole combination) by a limitation that defines the element of the claimed combination and recites what that element of the claimed combination does, rather than what that element of the claimed combination is. As specifically addressed in MPEP § 2173 and the *Swinehart* and *Innova/Pure Water* decisions cited therein (as well as the above-noted *Venezia* decision), the use of such functional limitations as definitions of the elements making up a claimed combination must be

considered as positively recited limitations and given patentable weight because there is nothing inherently wrong with defining some **part of an invention in functional terms**. This functional claiming of the elements making up a claimed combination, be that combination a product, an apparatus, or a machine, is clearly a different matter from the issue in *McCullough*, *Wikdahl*, and *Casey* as to whether the **use of an otherwise completely defined combination of elements** was of patentable significance. Moreover, even in the area of recited intended use, the decisions hold that such “use” statements must be given patentable weight if they are needed to define the invention. See the above-noted *Stencel* decision.

While the cited *Finsterwalder* decision differs slightly from the cited board decisions (*Wikdahl* and *McCullough*) and *Casey*, it still is concerned with a similar issue in terms of the weight to give to the fact that a claimed combination is particularly useful to perform a specific method in a rejection based on a use in a somewhat different method. Again, the issue in *Finsterwalder* concerns the possible **use of an otherwise completely defined combination of elements**. This issue and this decision are again not relevant to claims like the claims rejected here that set forth functional limitations as definitions of the elements making up a claimed combination as specifically permitted by the above-noted controlling case law.

Turning to the decisions of *Hewlett-Packard Co. v. Bausch & Lomb Inc.* and *Demaco Corp. v. F. Von Langsdorf Licensing Ltd.* that are cited at page 4 of the outstanding Action for the proposition that “apparatus **claims** [not limitations of claims] cover what a device is, not what a device does” (emphasis added) are not seen to be relevant. In this regard, these cited cases speak to **claim coverage** and not what is permitted in terms of having an individual element of a claimed combination defined by a limitation that recites what that element of the claimed combination does, rather than what that element of the claimed combination is. If the Examiner’s apparent interpretation that the word “claims” used in these decisions actually means “claim limitations,” these decisions would be in conflict with the statute. In this respect, 35 U.S.C. § 112, paragraph six, specifically states that

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Accordingly, the withdrawal of this improper rejection of claims 5-9, 14-16, and 21-23 under 35 U.S.C. §103(a) as being allegedly unpatentable over ‘484 in view of Walsh in further view of ‘081 is respectfully requested for all of the reasons set forth above.



**CONCLUSION**

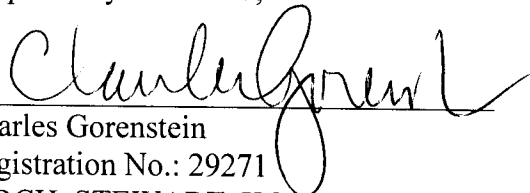
All of the stated grounds of rejection have been properly traversed. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Raymond F. Cardillo, Jr., Registration No. 40,440 at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

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Respectfully submitted,

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